

### **REMARKS**

The Office Action of May 10, 2005, has been considered by the Applicants. Claims 1, 5, 7-9, 13, 15, 16, 26, 32, and 33 have been amended. Claims 2 and 3 have been cancelled. Claims 1 and 4-33 are pending. Reconsideration of the Application is requested.

Claims 5, 13, 33, 11, and/or 12 were rejected under 35 U.S.C. § 112, ¶ 2, as being indefinite. Applicants traverse the rejections.

Zirconium butoxide has been removed from claims 5 and 13.

The repeated phrases in claim 33 have been removed.

Applicants submit that claims 11 and 12 are definite. The Examiner said that "claim 11 refers to a propoxide while claim 12 refers to an isopropoxide." This is definite because both claims depend from claim 10, which recites an alkyloxide; a propoxide and an isopropoxide are alkyloxides. Both terms have basis either as original claims or in the specification at paragraph [0019] on page 10.

For these reasons, Applicants request withdrawal of the rejections based on indefiniteness.

Claims 1 and 6-8 were rejected under 35 U.S.C. § 102(b) as anticipated by each of Teuscher (4,464,450) and Yu (5,460,911). Applicants traverse the rejections.

Teuscher does not anticipate claim 1. He does not teach the use of a solution containing a titanium alkyloxide or a polymer binder, or as in claims 6 and 7, a vinyl halide polymer. In all examples, Teuscher uses a solution containing only 3-aminopropyl triethoxysilane, ethanol, and isopropanol. Therefore, Teuscher does not anticipate.

Yu does not anticipate claim 1 either. He does not teach the use of a solution containing a titanium alkyloxide, or as in claims 6 and 7, a vinyl halide polymer. Yu also teaches the presence of a dye, which claim 1 does not. Therefore, Yu does not anticipate.

For these reasons, Applicants request withdrawal of the § 102(b) rejections based on Teuscher or Yu.

Claims 1-33 were rejected under 35 U.S.C. § 103(a) as unpatentable over Desilets (5,288,574), Yuh (6,218,062), and Jennings (6,074,791). Applicants traverse the rejections.

There is no motivation to combine the references. The Examiner stated that Desilets and Yuh teach hole blocking layers produced from the combination of metal alkyloxides and silane. However, neither reference makes this teaching. Desilets (in col. 12, cited by Examiner) teaches silanes and silane/zirconium oxide mixtures; this is not a metal alkyoxide. Similarly, Yuh (in col. 12, cited by Examiner) teaches only a mixture of zirconium butoxide and gamma aminopropyl-trimethoxysilane; this patent does not make any teaching about a metal alkyoxide, nor would one skilled in the art look to this patent and learn that a titanium alkyoxide could be used in a hole blocking layer.

Jennings does not remedy this deficiency. Jennings teaches a hole blocking layer prepared by a sol-gel process; see cols. 7-8, especially col. 7, lines 20-40. In particular, he teaches that the metal alkoxides are turned into solid particles. In other words, there would be no expectation of similar effects for the same intended use. Therefore, there is no motivation to combine the references. MPEP § 2143.01.

With regards to independent claim 10 and its dependent claims, not all claim limitations are met either. Jennings teaches metal alkoxides which are solid particles. In the instant claims, the titanium alkyloxides are in solution and the layer is formed by removing the solvent. The resulting products are clearly different. Therefore, not all claim limitations are met. MPEP § 2143.03.

Claim 32 has been amended to additionally recite a limitation that the hole blocking layer be between 15 and 30 microns thick. Basis for this range can be found in Example I, where a layer 15 microns thick was tested, in paragraph [0018] near the middle, and in original claims 18 and 19. Applicants note that all references cited by the Examiner teach away from this claimed range. Teuscher teaches thicknesses of 20 to 2,000 angstroms and says that as the layer gets thicker, residual charge increases and it becomes more brittle; see col. 5, lines 50-64. Yu teaches a thickness of less than 0.2 microns; see col. 7, lines 5-6. Desilets teaches a thickness of preferably 0.02 micron to 0.20 micron; see col. 12, lines 55-60. Yuh teaches a thickness of preferably 0.05 to 5 microns; see col. 5, lines 26-29. Jennings teaches thicknesses of 0.3 to 2.2 microns and states that thicknesses greater than 0.4 to 10 microns, the resistivity of the layer decreases. However,

Example I clearly shows possession of a layer that works outside of these ranges in the prior art.

For these reasons, Applicants request withdrawal of the 103(a) rejections.

Applicants note that the specification was amended in two locations solely to correct typographical errors: the misspelling of "propoxide" in paragraph [0019] and an inadvertently omitted apostrophe in paragraph [0027].

Claim 1 was amended to make clear that only one silane is needed. Claim 15 was amended to add an inadvertently omitted parenthesis. Claim 16 was amended to correct a misspelling. Claim 26 was amended to add an inadvertently omitted apostrophe. These amendments were made solely for clarity, not for patentability, and do not change the scope of the claim.

### **CONCLUSION**

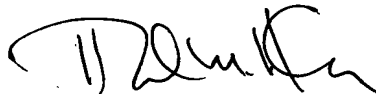
For the above reasons, Applicants submit all pending claims (1 and 4-33) are in condition for allowance. Withdrawal of the rejections and issuance of a Notice of Allowance is requested.

In the event the Examiner considers personal contact advantageous to the disposition of this case, he is hereby authorized to call Richard M. Klein, at telephone number 216-861-5582, Cleveland, OH.

It is believed that no fee is due in conjunction with this response. If, however, it is determined that fees are due, authorization is hereby given for deduction of those fees, other than the issue fees, from Deposit Account No. 24-0037.

Respectfully submitted,

FAY, SHARPE, FAGAN, MINNICH  
& McKEE LLP



---

Richard M. Klein (Reg. No. 33,000)  
1100 Superior Avenue, 7<sup>th</sup> Floor  
Cleveland, OH 44114  
(216) 861-5582